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Evolution of the Z=20 gap in neutron-rich Ca isotopes CLEMENTINE SANTAMARIA, Lawrence Berkeley National Laboratory — In recent years, neutron-rich Ca isotopes have been studied extensively, both theoretically and experimentally, as this is a region where structure can have a dramatic influence on the location of the neutron dripline. Large-space ab-initio calculations based on NN+3N forces predict that the dripline could extend as far as ^{70}Ca. However, recent data reveal deficiencies in theoretical predictions which reveal that extrapolating to the dripline may prove unreliable For example, an anomalously large charge radii was measured in ^{50,52}Ca relative to ^{48}Ca which challenges the doubly-magic nature of ^{52}Ca. I will report on the results of an experiment performed at the NSCL with GRETINA to determine the proton single-particle occupancies using the (d,n) proton transfer reaction on ^{50}Ca to states in ^{51}Sc.

Clementine Santamaria
Lawrence Berkeley National Laboratory

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